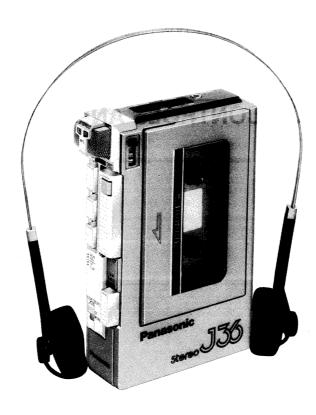
Service Manua

Stereo Mini Cassette Recorder/Player



This is the Service Manual for the following areas.

D For all European areas.

RQ-335 MECHANISM SERIES

Specifications

Battery; 6V (four "R6" size dry batteries) Power requirement:

Car battery; with optional car/boat adaptor RP-917

Electrical governor motor Motor:

Frequency range: 70 — 10,000 Hz

4-track 2-channel stereo recording and playback Track system:

Stereo playback with stereo headphones

 $4.8\,\mathrm{cm/s}$ Tape speed:

Fast forward and rewind time: Approx. 150 seconds with C-60 cassette tape

MIC; sensitivity $0.25\,\text{mV}$, applicable microphone impedance $200\Omega-600\Omega$ Inputs:

HEADPHONES; output level $560\,\text{mV}$ over (at $16\,\Omega$) Output:

1 super permalloy head for record/playback Heads:

1 erase head

 $95.5 \text{mm}(W) \times 147.5 \text{mm}(H) \times 36.0 \text{mm}(D)$ Dimensions:

Weight: 440 g, without batteries

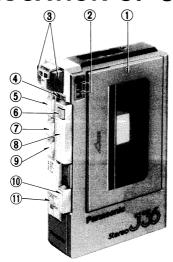
Specifications are subject to change without notice.

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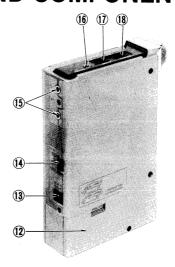
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LOCATION OF CONTROLS AND COMPONENTS

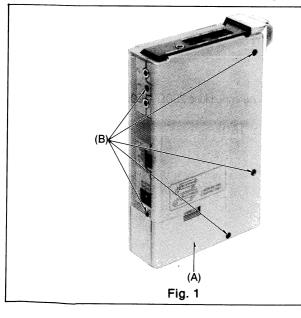


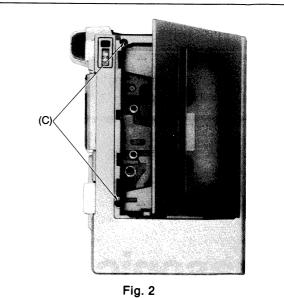
- 1 Cassette compartment cover
- 2 Tape counter and reset button
- 3 Built-in microphone
- 4 Battery check lamp
- Stop button
- 6 Record button7 Rewind/review button
- 8 Playback button
- 9 Fast forward/cue button

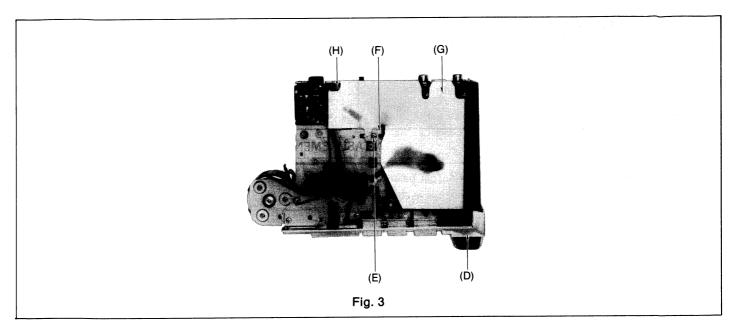


- 10 Eject/pause button
- 1) Stereo/mono select switch
- 12 Battery cover
- 13 DC IN jack
- Playback equalizer/tone control switch
- 15 Microphone jack
- 16 Headphones jack
- 1 Volume control
- (8) Valance volume control

DISASSEMBLY INSTRUCTION







Ref. No.	Procedure	To remove —— .	To remove —— . Remove —— .	
1	1	Bottom case assembly	• Battery cover	1 1
2	1→2	Main case assembly and jack board assembly	• 2 black screws(C)	2
3	1→2→3	Main circuit board	• Front panel	3 3 3 3 3

CHIP PARTS REPAIR PROCEDURE

(transistor, diode, resistor and capacitor, etc.)

A. Removal

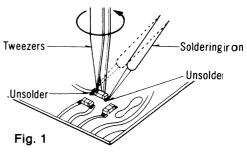
- 1. Remove all solder from both ends of chip using a solder sucker (RP8062) or desoldering wick.
- 2. While the chip is hot remove it by turning with tweezers as shown in fig. 1.
 - * Make sure that the unit is turned OFF when checking the resistance and polarity of a chip.

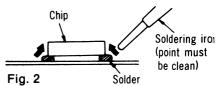
B. Mounting

Place solder on the foil chip mounting, and solder the chip while applying the soldering iron in the direction of the arrow, as shown in the diagram (fig. 2).

C. Precautions in mounting the chip

- 1. Do not heat the chip beyond 3 seconds.
- 2. Do not rub the electrode.
- 3. Use tweezers to prevent any damage to the surface.
- 4. It is recommended that a pencil-type soldering iron be used.
- 5. Maintain temperature control under 260°C (500°F) when soldering.
 - * Chip resistance (of not more than 100Ω) may vary greatly with the direction of mounting; therefore, mount the white side in the pattern side.
- 6. Do not re-use the tantalum capacitors or ceramic capacitors after removal (use new components).
- 7. Do not subject the components (chips) to excessive stress.





MEASUREMENT AND ADJUSTMENT METHODS

NOTES:

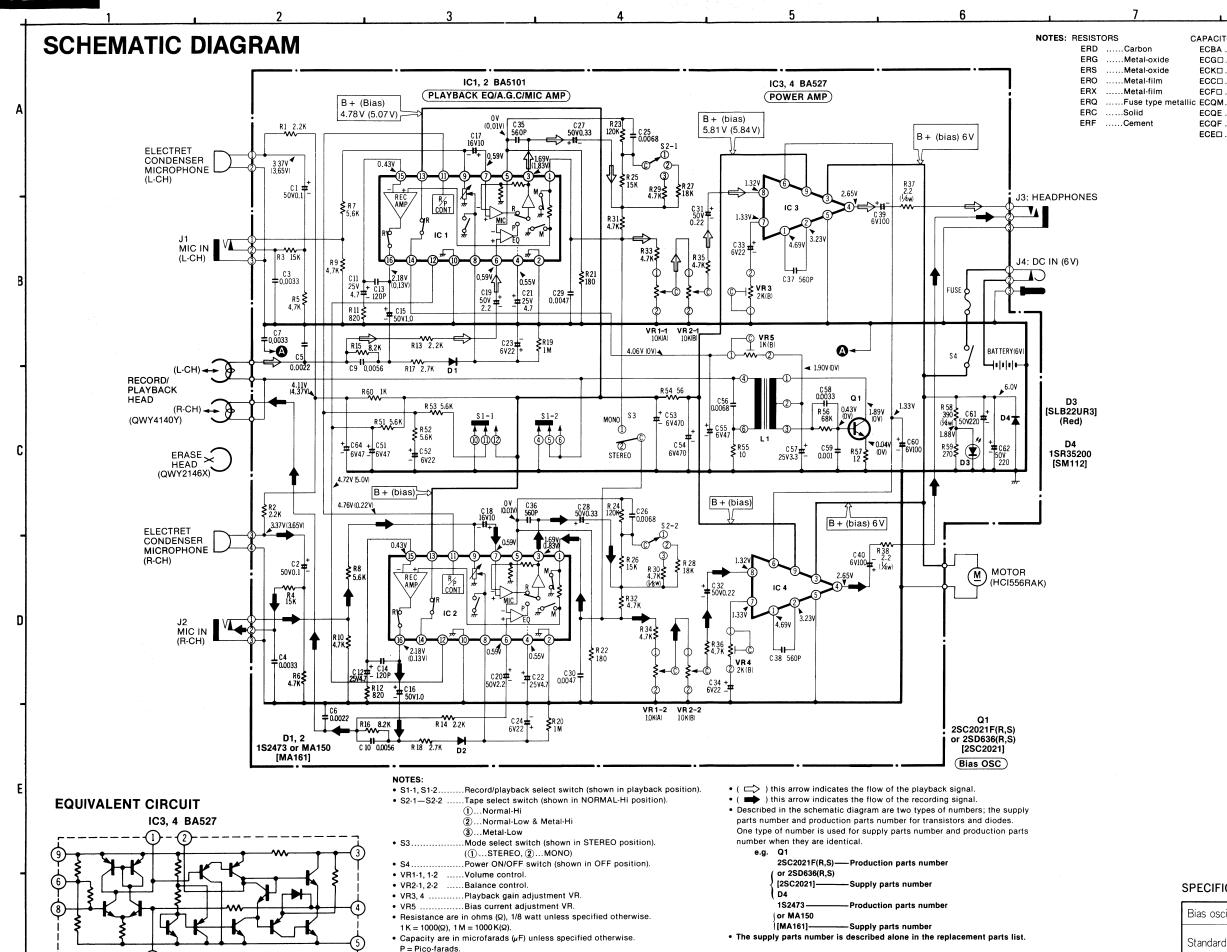
- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature: 20±5°C (68±9°F)

• Playback equalizer/tone control switch: Normal H position

• Mode select switch: STEREO

Balance control: "0" position

ITEM MEASUREMENT & ADJUSTMENT Head azimuth adjustment L-CH/R-CH output balance adjustment Condition: 1. Make connections as shown in fig. 1 and 2. playback head * Playback mode 2. Playback the 8kHz signal from the test tape DE (QZZCFM). Adjust screw (A) in fig. 3 for Equipment: Playback mode maximum output L-CH and R-CH levels. VTVM Oscilloscope *VTVM* Oscilloscope Fig. 1 When the output levels of L-CH and R-CH are * Test tape (azimuth) not at maximum at the same time, readjust as ... QZZCFM follows. 3. Turn the screw shown in fig. 3 to find angles A and C (points where peak output levels for left and right channels are obtained). Then, locate the angle B between angles A and C, i.e., a point where L-CH and R-CH output levels come together at maximum. (Refer to figs. 3 and 4.) 🖏 load (16 Ω) 10 700 I-CH INSERT R-CH Dummy load (16 Ω) Fig. 2 Shield wire L-CH/R-CH phase adjustment Record/ С playback head 4. Make connections as shown in fig. 2 and 5. 5. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (A) shown in fig. 3 so that pointers of the two VTVMs swing to maximum (A) and a waveform as illustrated in fig. 6 is obtained on the oscilloscope. Fig. 3 L-CH peak level R-CH peak level OUTPUT Record/playback Oscilloscope 16Ω ✓ VTVM L-CH-T R-CH-T Playback Head- 16 Ω ANGLE В Ċ mode Dhones Vertical Horizontal jack Fig. 5 Fig. 4 Fig. 6 Tape speed accuracy Tape speed accuracy adjustment Record/ 1. Test equipment connection is shown in fig. 2 and 7. Headphones jack playback head Playback test tape (QZZCWAT 3,000 Hz), and supply playback Condition * Playback mode signal to frequency counter 16Ω Take measurement at middle section of test tape. Equipment: Playback mode Digital Measure this frequency * Digital electronic counter or electronic counter 5. On the basis of 3,000 Hz, determine value by following formula: frequency counter $f = 3.000 \times 100 (\%)$ Fig. 7 * Test tape · · · QZZCWAT Tape speed accuracy = 3.000 where, f = measured valueStandard value: $\pm 2.5\%$ 6. If measured value is not within standard, adjust tape speed adjustment VR (shown in electrical parts location), so that frequency becomes 3,000 Hz.



All voltage values shown in circuitry are under no signal condition and record

However, the voltage in playback mode is indicated in () when it differs

mode with volume control at minimum position.

from that in record mode For measurement, use VTVM.

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ECED.

CAPACITORS ECBACeramic ECG□......Ceramic ECK□. ...Ceramic

ECE□N ...Non polar electrolytic ECQSPolystyrene ECS□Tantalum QCSTantalum

ECC□. ...Ceramic CHIP RESISTORS ECFD. .Ceramic RRDCarbon .Polvester film CHIP CAPACITORS FCQF Polyester film ECQF .

QCUCeramic .. Polypropylene Electrolytic ECSETantalum

REPLACEMENT PARTS LIST

REPLA	CEMENT P	ARTS L	IST		
Ref. No.	Part No.	Ref. No.	Part No.		
RES	SISTORS	CAPACITORS			
R1, 2	RRD18XJ222	C1, 2	ECEA1HK0R1		
R3, 4	RRD18XJ153	C3, 4	QCUT1H332KRL		
R5, 6	RRD18XJ472	C5, 6	QCUT1H222KRL		
R7	RRD18XJ562	C7	QCUT1H332MRL		
R8	ERD10TJ562	C9, 10	QCUT1H562KRL		
R9, 10	RRD18XJ472	C11, 12	ECEA1EK4R7		
R11	RRD18XJ821	C13, 14	QCUT1H121KCL		
R12	ERD10TJ821	C15, 16	ECEA1HK010		
R13, 14	RRD18XJ222	C17, 18	ECEA1CK100		
R15	RRD18XJ822	C19, 20	ECEA1HK2R2		
R16	ERD10TJ822	C21, 22	ECEA1EK4R7		
R17	ERD10TJ272	C23, 24	ECEA0JK220		
R18	RRD18XJ272	C25, 26	QCUT1H682KRL		
R19, 20	RRD18XJ105	C27, 28	ECEA1HKR33		
R21, 22	RRD18XJ181	C29, 30	QCUT1H472KRL		
R23	ERD10TJ124	C31, 32	ECEA1HKR22		
R24	RRD18XJ124	C33, 34	ECEA0JK220		
R25, 26	RRD18XJ153	C35, 36, 37,	38		
R27, 28	RRD18XJ183		QCUT1H561MRL		
R29	RRD18XJ472	C39, 40	ECEA0JK101		
		C51	ECEA0JK470		
R30, 31	ERD10TJ472	1			
R32, 33, 34,	35, 36	C52	ECEA0JK220		
	RRD18XJ472	C53, 54	ECEA0JSS471		
R37, 38	ERD25FJ2R2	C55	ECEA0JK470		
R51	ERD10TJ562	C56	ECFDD682KBL		
R52, 53	RRD18XJ562	C57	ECEA1EK3R3		
R54	RRD18XJ560	C58	QCUT1H332KRL		
R55	RRD18XJ100	C59	QCUT1H102KRL		
R56	RRD18XJ683	C60	ECEA0JK101		
R57	RRD18XJ120	C61, 62	ECEA1HSS221		
R58	ERD25FJ391	C64	ECEA0JK470		
R59	ERD10TJ271	TRA	NSISTOR		
R60	RRD18XJ102	Q1	2SC2021		
CHIP	JUMPERS	<u> </u>	IODES		
JP1, 2, 3	RRD18XK000	D1, 2 D3	MA161 SLB22UR3		
VARIAB	i E	D3	SM112		
	RESISTORS	"	JINTIE		
VR1	EVUCAAT65A14	INTEGR			
VR2	EVUCBAT65679		CIRCUITS		
		1 .	D		
VR3, 4	EVNB3AA00B23	IC1, 2	BA5101		

Ref. No.	Part No.	Part Name & Description			
		COIL			
L1	QLB0196K	Bias Oscillation Coil			
	S	WITCHES			
S1	QSS4219	Slide Switch			
		(Record/Playback Selector)			
S2	QSS2310	Slide Switch			
		(Playback Equalizer/Tone Control)			
S3	QSS1229	Slide Switch			
		(Stereo/Mono Selector)			
S4	QSB0255	Leaf Switch			
		(Power ON/OFF Switch)			
		JACKS			
J1, 2	QJA0184	Microphone Jack			
J3	QJAA0017	Jack Board Assembly			
		(with Stereo Headphones Jack)			
J4	OJA0177	DC IN Jack			

SPECIFICATIONS

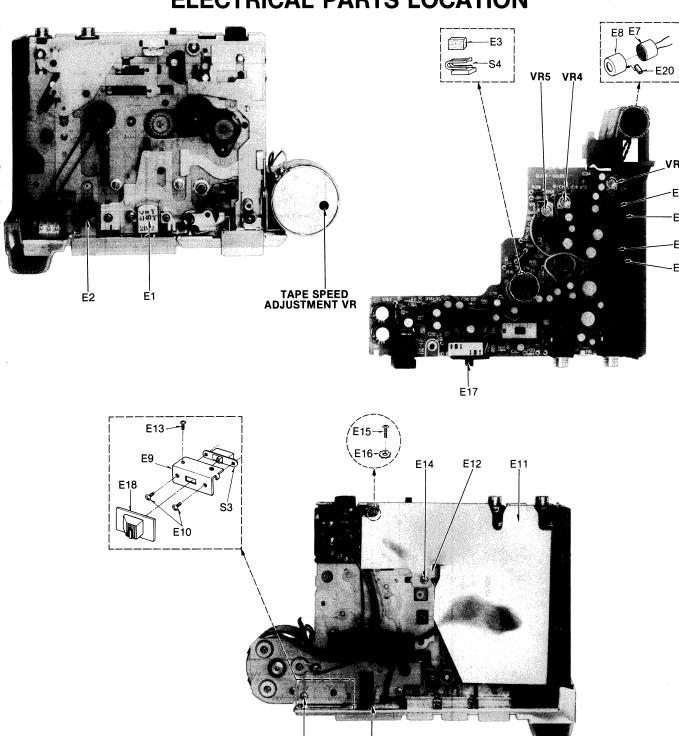
Bias oscillation frequency	35±5kHz			
Standard recording input level	1 kHz: −72±4 dB			
Overall frequency response	150 Hz: -3±5 dB 1 kHz: 0 dB 6 kHz: -2±6 dB			

• This schematic diagram may be modified at any time dwith

the development of new technology.

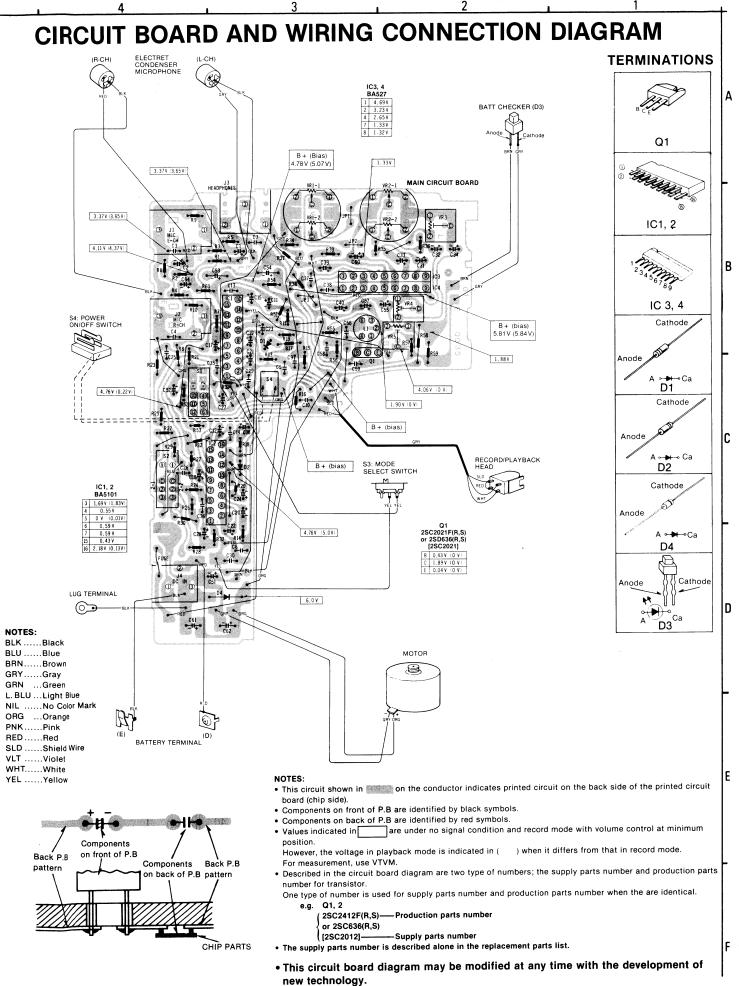
ITEM	MEASUREMENT & ADJUSTMENT			
Playback frequency response	Test equipment connections is shown in fig. 1 and 2. Playback frequency response test tape (QZZCFM).	Playback frequency response table		
Condition:	3. Measure output level at 315 Hz, 125 Hz, 1 kHz, 4 kHz, 8 kHz and	125 Hz		
* Playback mode	compare each output level with standard frequency 315 Hz, at the headphones jack.	315Hz 0dB		
Equipment:	4. Make measurement for both channels.	1 kHz 0 ± 4 dB		
* VTVM * Oscilloscope * Test tape ··· QZZCFM	5. Make sure that the measured value is within the range specified in the	4 kHz −1.0 ± 4 dE		
* rest tape ··· QZZOr M	frequency response table (shown in fig. 8).	8kHz -1.5±5dE		
		Fig. 8		
Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	Standard value: around 0.68 V Adjustment If measured value is not standard, adjust VR3 (L-CH), VR4 (R-CH) (shown in	electrical parts location).		
Bias current adjustment Condition: * Record mode Equipment: * VTVM * Oscilloscope	Dacard /plauhagh	S1-2 \$\sqrt{5}\sqrt{6}\sqrt{6}\sqrt{2}\sqrt{10\sqt}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}		

ELECTRICAL PARTS LOCATION



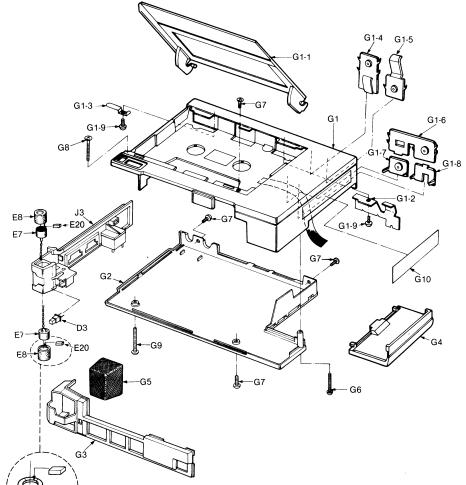
REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
	ELECTR	ICAL PARTS	E10	XSN2+3	Screw $\pm 2 \times 3$
E1	QWY4140Y	Record/Playback Head	E11	QTSA0018	Shield Plate
E2	OWY2146X	Erase Head	E12	QMA4354	P.B Holding Angle
E3	OBMA0014	Cushion-B	E13	XQN2C3FN	Screw $\pm 2 \times 3$
E4	OGT1596	Volume Knob	E14	XQN2C6FN	Screw ±2×6
E5	XON17B28FZ	Screw +1.7×2.8	E15	XSN2+4	Screw ±2×4
E6	OGT1597	Balance Volume Knob	E16	XWC2B	Washer 2¢
E7	WM034AZ	Electret Condenser Microphone	E17	QKJA0042	Switch Shelter
E8	OBG1725	Microphone Rubber	E18	QGT1595	Mode Select Knob
E9	QMA4445	Switch Angle	E19	QBMA0016	Cushion
			E20	QBMA0014	Cushion-B



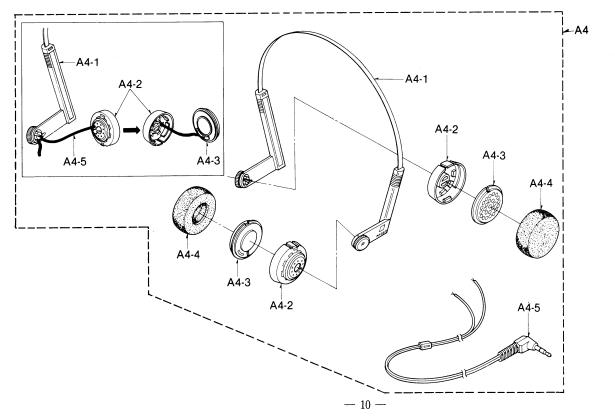
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CABINET PARTS LOCATION

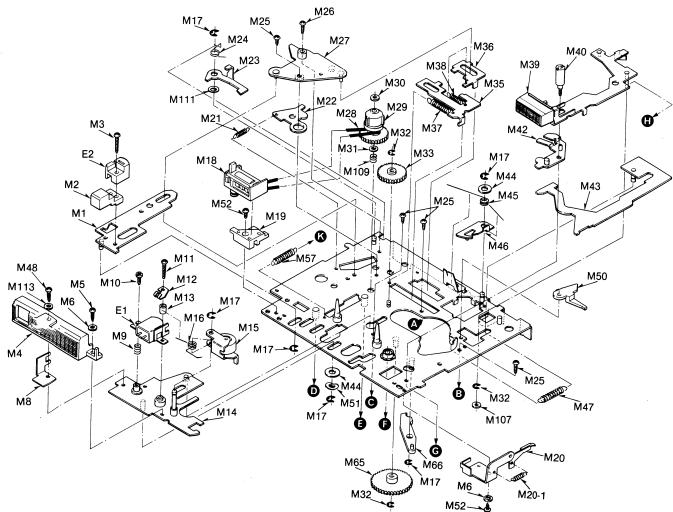


Ref. No.	Part No.	Part Name & Description						
CABINET PARTS								
G1	QYMA0178H	Main Case Assembly						
G1-1	OYFA0039H	Cassette Lid Assembly						
G1-2	QBP1941	Cassette Lid Spring						
G1-3	OMA4462	Cassette Lid Holding Angle						
G1-4	OJB0152	Battery Terminal-A						
G1-5	OJB0153	Battery Terminal-B						
G1-6	OJB0154	Battery Terminal-C						
G1-7	OJB0155	Battery Terminal-D						
G1-8	QJB0156	Battery Terminal-E						
G1-9	XTN2+6BFZ	Tapping Screw +2×6						
		Tapping stress						
G2	QYMA0175H	Bottom Case Assembly						
G3	OGPA0009	Front Panel						
G4	OKFA4001H1	Battery Cover						
G5	OGKA0111	Microphone Net						
G6	XTS2+20BFZ	Tapping Screw +2×20						
G7	XSS2+6BV	Screw + 2×6						
G8	XSN2+14	Screw + 2×14						
G9	XSN2+18	Screw + 2 × 18						
G10	OGSA0078	Main Name Plate						
	ACCESSORIES							
A 1	QQT3305	Instruction Book						
A2	0JP0959	Erase Plug						
A3	OFKA0065	Carring Bag						
A4	RP9517XP	Stereo Headphones Assembly						
A4-1	QYQ0310	Headphones Band Assembly						
A4-2	OKJ0530	Housing						
A4-3	QYM0772	Speaker Assembly						
A4-4	OBM1309	Ear Pad						
A4-5	QEB0156	Headphones Cord						
A5	0ZC0015	Shoulder Bet						
	`	CKINGS						
	_	1						
P1	QPNA0160	Inside Carton						
P2	QPAA0080	Cushion						
P3	XZB16X27A02	Poly Bag (for UNIT)						
P4	QPAA0081	Pad						

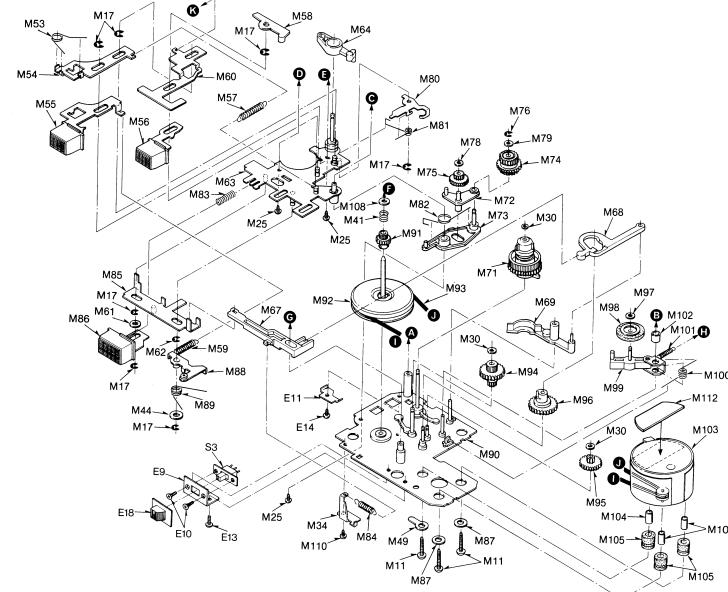
HEADPHONES PARTS LOCATION A4: Stereo Headphones Ass'y (RP9517XP)



MECHANICAL PARTS LOCATION (Front View)



(Rear View)



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
	MECHA	NICAL PARTS	M27	QMH2080	Rod Holder	M54	QMR2015	Playback Rod	M84	OBT 1901	Lock Plate Spring
M1	0XK2530	Erase Head Base Plate Assembly	M28	QDB0310	Counter Belt	M55	QXB0756	Rewind Button Assembly	M85	0XR0776	Lock Plate Assembly
M2			M29	QXD0116	Supply Reel Table Assembly	M56	QXB0757	Fast Forward Button Assembly	M86	QXB0755	Stop Button Assembly
M2 M3	QG01930	Record Button	M30	QBW2008	Snap Washer	M57	QBT1900	Playback Rod Spring	M87	XWE2A7	Washer
M4	XSN2+10	Screw + 2×10		!		M58	QML3635	Cue Lever-B	M88	QXL1375	Cue Lever-A Assembly
	QG01929S	Playback Button	M31	QBKA0006	Washer	M59	OBT1906	Rewind Rod Spring	M89	QBN1763	Cue Lever Spring
M5	XSN2+5	Screw +2×5	M32	XUC15FT	Stop Ring	M60	QMR1947	Fast Forward/Rewind Rod	M90	QXK2532	Lower Base Plate Assembly
M6	XWA2B	Washer 2¢	M33	QDG1212	Gear (8)				M91	QDG1205	Gear (1)
M8	QMG0101	Tape Guide	M34	QMA4294	Lock Plate Spring Angle	M61	QBJA3025	Washer	M92	QXF0179	Flywheel Assembly
M9	QBC1339	Head Spring	M35	QMR2024	Switch Rod-A	M62	XUC25FT	Stop Ring	1		Try whoch Assembly
M10	XSBQ2D45	Head Adjustment Screw	M36	QMR2025	Switch Rod-B	M63	0XH0414	Button Holder Assembly	М93	QDB0283	Flywheel Belt
M11	XSN2+8	Screw £2×8	M37	QBT1904	Switch Rod Spring-A	M64	OML3804	Switch Lever	M94	ODG1207	Gear (3)
M12	QTD1300	Wire Clamper	M38	QBT1905	Switch Rod Spring-B	M65	ODG1255	Gear (2)	M95	QDG1208	Gear (4)
M13	QMC0142	Head Collar	M39	QXR0791	Pause Rod Assembly	M66	QML3857	Idler Driving Lever	M96	QDG1209	Gear (5)
M14	QXK2528	Head Base Plate Assembly	M40	QMP1822	Pause Rod Guide	M67	OMR1949	Lock Release Rod	M97	OBW2030	Washer
M15	QXL1455	Pressure Roller Lever Assembly				M68	OML3632	Auto-Stop Detection Lever-B	M98	0Xi0114	Takeup Idler Assembly
M16	QBN1869	Pressure Roller Lever Spring	M41	QBC1406	Capstan Spring	M69	QXL1374	Auto-Stop Detection Lever-A	M99	QXL1387	Idler Lever Assembly
M17	XUC2FT	Stop Ring 2¢	M42	OXL1427	Pause Lever Assembly	M71	QXD0115	Takeup Reel Table Assembly	M100	OBN1762	Idler Spring
M18	QDC0129	Tape Counter	M43	OXR0755	Eiect Rod Assembly	'''' '	QXDOTTS	Takeup Reel Table Assembly	M101	OBT1903	
M19	QMZ1279	Counter Table	M44	XWE3A7	Poly Washer	M72	QXL1377	Fast Forward Lever-A Assembly	M102	OMC0106	Pause Rod Spring Collar
M20	QXK2534	Head Base Plate Holding Angle	M45	OBN1872	Pause Lock Plate Spring	M73	0XL1377	Fast Forward Lever-B Assembly	M103	HC15S6RAK	
1		Assembly	M46	OML3626	Pause Lock Plate	M74	0XG1049	Fast Forward Gear Assembly	M104	QMC0141	Motor Assembly Motor Collar
M20-1	QBT1898	Eject Lever Spring	M47	OBT1926	Eject Rod Spring	M75	ODG1210	Gear (6)	M105	QBG1727	Motor Rubber
1			M48	XSN2+4	Screw ÷2×4	M76	XUC12FT	Stop Ring 1.2¢	M103	0BW2042	Washer
M21	QBT1902	Record Rod Spring	M49	OTDA0004	Lug Terminal	M78	QBW2010	Washer	M107	QBJ3098	wasner
M22	QML3623	Record Rod	M50	OML3638	Auto Safety Lever	M79	QBJA3014	wasner	M108	OBCT0010	BI T
M23	QML3803	Erase Safety Metal	1,1130	QMESOSO	Auto Salety Level	M80	OML3648	01	M110	XQN2C3FN	Back Tension Spring
M24	QBN1871	Erase Safety Metal Spring	M51	OBP1519	Spring Washer	M81	QBN1870	Gear Lever		QBJA3026	Screw
M25	XQN16B3FZ	Screw £1.6×3	M52	XSN2+3	Screw +2×3	M82		Gear Lever Spring	M111		Washer
M26	XQN16B5FZ	Screw £1.6×5	M53	OBN1765	Head Base Plate Spring		QBN1764	Fast Forward Lever Spring	M112	QTSA0020	Shield Plate
	1		IMIJJ	QDI41703	neau base riate Spring	M83	QBC1377	Stop Button Spring	M113	XWG2	Washer 2¢

When servicing this mechanism unit, refer to the disassembly notes and assembly instructions described in the service manuals of RQ-337, RS-J3, RQ-335A and RQ-J5 (RQ-335 mechanism series).

SPECIFICATIONS

Pressure of pressure roller	300±50g
Takeup tension • Use cassette torque meter QZZRKCT	40 ^{+ 15} _{- 10} g-cm
Wow and flutter: JIS * Use test tape ··· QZZCWAT	Less than 0.48% (RMS)

M.S Prin